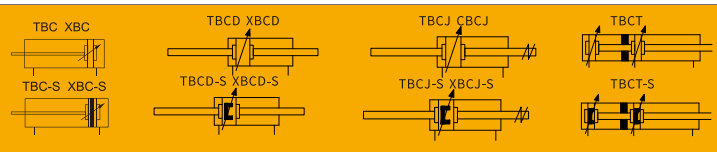
# TBC/XBC
## Standard Cylinder




## Specifications

| Bore Size (mm) | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 |
|---|---|---|---|---|---|---|---|---|
| Acting type | Double Acting | | | | | | | |
| Working medium | Clean Air(40 μ m filteration) | | | | | | | |
| Working pressure (MPa) | 0.1~1.0 | | | | | | | |
| Guaranteed pressure (MPa) | 1.5 | | | | | | | |
| Working temperature (℃) | –20~70(No freezing) | | | | | | | |
| Speed range (mm/s) | 50~800 | | | | | | 30~500 | |
| Cushion type | Air Cushion | | | | | | | |
| Cushion stroke (mm) | 25 | | 24 | | 30 | | | 28 |
| Mounting type | LB FA FB CA CB TC | | | | | | | |
| Port size ❶ | G1/8 | G1/4 | | G3/8 | | G1/2 | | G3/4 |

❶ PT、NPT port size is optional.

## How to Order?

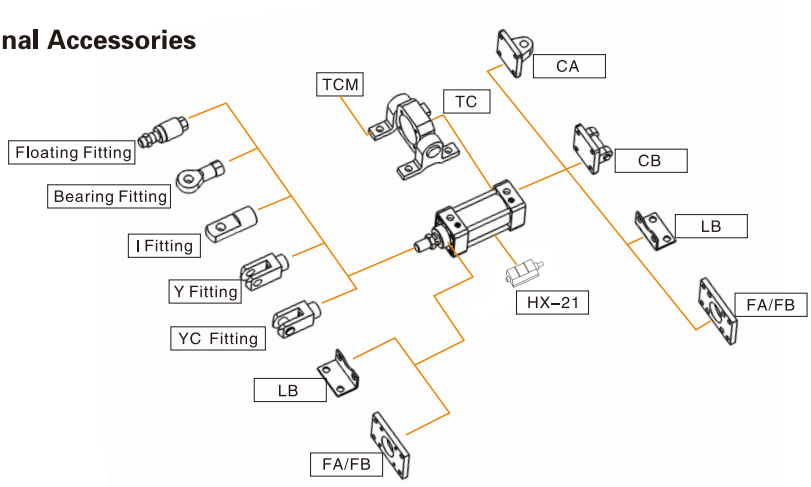
| Series No. | Cushion Type | Type No. | Bore X | Stroke– | Adjustable Stroke | – | Magnet No. – | Seal Material | – | Mounting Type | – | Thread Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB: Round type barrel<br>XB: Profile barrel | C: Air cushion | Blank: Basic type<br>D: Double shaft type<br>J: Double shaft and adjustable type | 32<br>40<br>50<br>63<br>80<br>100<br>125 (Only TB is optional)<br>160 (Only TB is optional) | 25<br>50<br>75<br>… | 10<br>20<br>30<br>40<br>50<br>75<br>100 | | Blank: No magnet<br>S: With magnet | Blank: Standard material (NBR seal)<br>V: VITON seal<br>( The standard is VITONT seal, if HNBR seal please apply for non–standard ) | | Blank: No<br>CA TCM<br>CB IJ<br>LB YJ<br>FA YCJ<br>FB BJ<br>TC FD<br>…. | | Blank: G<br>P: PT<br>T: NPT |

| Series No. | Cushion Type | Type No. | Bore X | Stroke– | Adjustable Stroke | – | Magnet No. – | Seal Material | – | Mounting Type | – | Thread Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB: Round type barrel | C: Air cushion | T:Multi–position type | 32<br>40<br>50<br>63<br>80<br>100 | 25<br>50<br>75<br>… | 25<br>50<br>75<br>… | | Blank: No magnet<br>S: With magnet | | | | | Blank: G<br>P: PT<br>T: NPT |

Order Example:

TBC series, bore 40mm, stroke 50mm, with magnet, seal material is standard material,CA mounting accessory.
EPR code is: TBC40X50–S–CA
Note: If cylinder with several different mounting accessories, please use this sequential coding: CA/CB/CR/LB/FA/FB/TC/IJ/YJ/BJ/FD(TC only available for TBC )

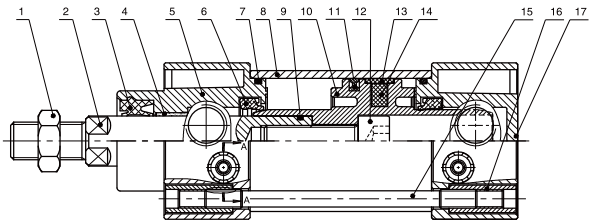
## Optional Accessories

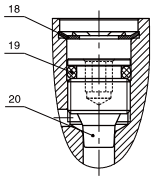


## Stroke

| Bore (mm) | Standard Stroke (mm) | Max. Stroke (mm) |
|---|---|---|
| 32 | 25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500 | 1900 |
| 40 | 25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500 600 700 800 | 1900 |
| 50~160 | 25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500 600 700 800 900 1000 | 1900 |

## Internal Structure



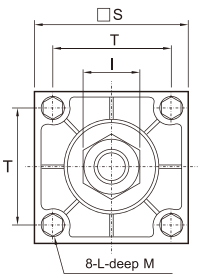



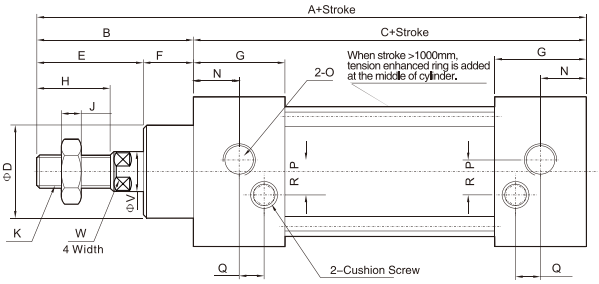

A–A section view

| NO. | Part Name | Material |
|---|---|---|
| 1 | Nut | Carbon steel |
| 2 | Piston rod | S45C hard chrome carbon steel |
| 3 | Piston rod seal | TPU |
| 4 | Self lubricating bearing | Bronze powder |
| 5 | Head cover | Aluminum alloy |
| 6 | Cushion seal | NBR |
| 7 | O–ring | NBR |
| 8 | Barrel | Aluminum alloy |
| 9 | O–ring | NBR |
| 10 | Piston | Aluminum alloy |
| 11 | Piston seal | NBR |
| 12 | Screw | Carbon steel |
| 13 | Wear ring | PTFE |
| 14 | Magnet | Plastic |
| 15 | Tie rod | Carbon steel |
| 16 | Tie rod nut | Carbon steel |
| 17 | Rear cover | Aluminum alloy |
| 18 | Retainer ring | Spring steel |
| 19 | O–ring | NBR |
| 20 | Nut | Brass |

## Main Dimension

TBC Φ32–Φ160



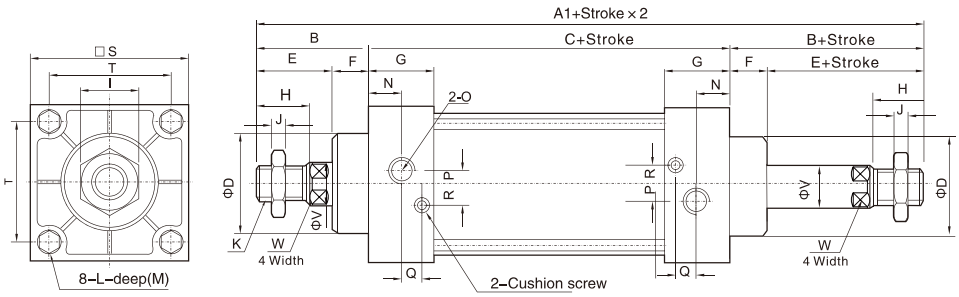




| Bore/Sign | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 140 | 47 | 93 | 26 | 32 | 15 | 27.5 | 22 | 17 | 6 | M10X1.25 | M6X1 |
| 40 | 142 | 49 | 93 | 32 | 34 | 15 | 27.5 | 24 | 17 | 7 | M12X1.25 | M6X1 |
| 50 | 150 | 57 | 93 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M6X1 |
| 63 | 153 | 57 | 96 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M8X1.25 |
| 80 | 182 | 75 | 107 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 100 | 188 | 75 | 113 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 125 | 218 | 88 | 130 | 52 | 68 | 20 | 38 | 54 | 41 | 13.5 | M27X2.0 | M12X1.75 |
| 160 | 254 | 113 | 141 | 62 | 88 | 25 | 38 | 72 | 55 | 18 | M36X2.0 | M16X2.0 |

| Bore/Sign | M | N | O | P | Q | R | S | T | V | W |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 13 | 14 | 1/8" | 3.5 | 7 | 6.5 | 45 | 33 | 12 | 10 |
| 40 | 13 | 13.5 | 1/4" | 5 | 5.5 | 8.5 | 50 | 37 | 16 | 14 |
| 50 | 13 | 14.5 | 1/4" | 8.5 | 3 | 11 | 62 | 47 | 20 | 17 |
| 63 | 13 | 15 | 3/8" | 7 | 5 | 9.5 | 75 | 56 | 20 | 17 |
| 80 | 15.5 | 16.5 | 3/8" | 7 | 8 | 10 | 94 | 70 | 25 | 22 |
| 100 | 15.5 | 16.5 | 1/2" | 7.5 | 8 | 13 | 112 | 84 | 25 | 22 |
| 125 | 19 | 19 | 1/2" | 15 | 5 | 15 | 137.5 | 104 | 32 | 27 |
| 160 | 19.5 | 19 | 3/4" | 15 | 6 | 15 | 173.5 | 134 | 40 | 36 |

## Main Dimension

TBCD Φ32–Φ160

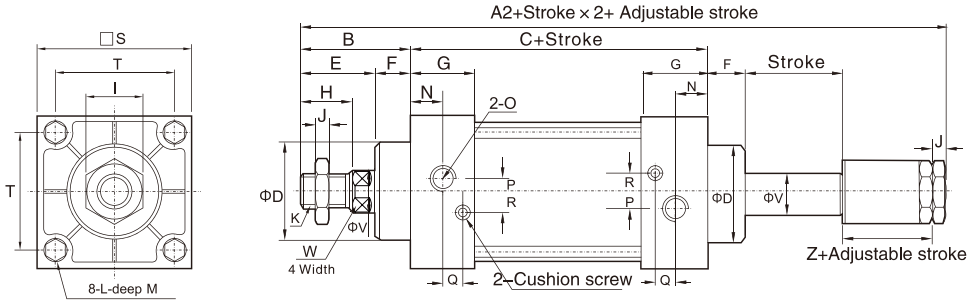



| Bore/Sign | A1 | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 187 | 47 | 93 | 26 | 32 | 15 | 27.5 | 22 | 17 | 6 | M10X1.25 | M6X1 |
| 40 | 191 | 49 | 93 | 32 | 34 | 15 | 27.5 | 24 | 17 | 7 | M12X1.25 | M6X1 |
| 50 | 207 | 57 | 93 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M6X1 |
| 63 | 210 | 57 | 96 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M8X1.25 |
| 80 | 257 | 75 | 107 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 100 | 263 | 75 | 113 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 125 | 306 | 88 | 130 | 52 | 66 | 20 | 38 | 54 | 41 | 13.5 | M27X2.0 | M12X1.75 |
| 160 | 367 | 113 | 141 | 62 | 88 | 25 | 38 | 72 | 55 | 18 | M36X2.0 | M16X2.0 |

| Bore/Sign | M | N | O | P | Q | R | S | T | V | W |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 13 | 14 | 1/8" | 3.5 | 7 | 6.5 | 45 | 33 | 12 | 10 |
| 40 | 13 | 13.5 | 1/4" | 5 | 5.5 | 8.5 | 50 | 37 | 16 | 14 |
| 50 | 13 | 14.5 | 1/4" | 8.5 | 3 | 11 | 62 | 47 | 20 | 17 |
| 63 | 13 | 15 | 3/8" | 7 | 5 | 9.5 | 75 | 56 | 20 | 17 |
| 80 | 15.5 | 16.5 | 3/8" | 7 | 8 | 10 | 94 | 70 | 25 | 22 |
| 100 | 15.5 | 16.5 | 1/2" | 7.5 | 8 | 13 | 112 | 84 | 25 | 22 |
| 125 | 19 | 19 | 1/2" | 15 | 5 | 15 | 137.5 | 104 | 32 | 27 |
| 160 | 19.5 | 19 | 3/4" | 15 | 6 | 15 | 173.5 | 134 | 40 | 36 |

Note: 1. With magnet and no magnet, the dimensions are same.
2. XBC series dimensions are same as TBC.

TBCJ Φ32–Φ160

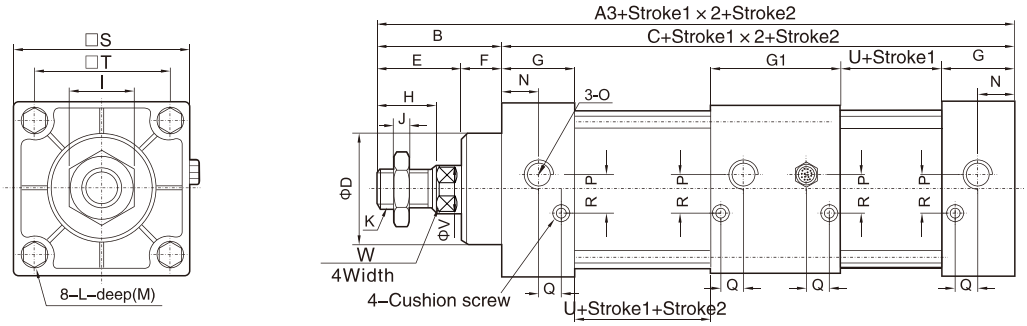



| Bore/Sign | A2 | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 182 | 47 | 93 | 26 | 32 | 15 | 27.5 | 22 | 17 | 6 | M10X1.25 | M6X1 |
| 40 | 185 | 49 | 93 | 32 | 34 | 15 | 27.5 | 24 | 17 | 7 | M12X1.25 | M6X1 |
| 50 | 196 | 57 | 93 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M6X1 |
| 63 | 199 | 57 | 96 | 38 | 42 | 15 | 27.5 | 32 | 23 | 8 | M16X1.5 | M8X1.25 |
| 80 | 242 | 75 | 107 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 100 | 248 | 75 | 113 | 46 | 54 | 21 | 33 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 125 | 286.5 | 88 | 130 | 52 | 68 | 20 | 38 | 54 | 41 | 13.5 | M27X2.0 | M12X1.75 |
| 160 | 337 | 113 | 141 | 62 | 88 | 25 | 38 | 72 | 55 | 18 | M36X2.0 | M16X2.0 |

| Bore/Sign | M | N | O | P | Q | R | S | T | V | W | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 13 | 14 | 1/8" | 3.5 | 7 | 6.5 | 45 | 33 | 12 | 10 | 21 |
| 40 | 13 | 13.5 | 1/4" | 5 | 5.5 | 8.5 | 50 | 37 | 16 | 14 | 21 |
| 50 | 13 | 14.5 | 1/4" | 8.5 | 3 | 11 | 62 | 47 | 20 | 17 | 23 |
| 63 | 13 | 15 | 3/8" | 7 | 5 | 9.5 | 75 | 56 | 20 | 17 | 23 |
| 80 | 15.5 | 16.5 | 3/8" | 7 | 8 | 10 | 94 | 70 | 25 | 22 | 29 |
| 100 | 15.5 | 16.5 | 1/2" | 7.5 | 8 | 13 | 112 | 84 | 25 | 22 | 29 |
| 125 | 19 | 19 | 1/2" | 15 | 5 | 15 | 137.5 | 104 | 32 | 27 | 35 |
| 160 | 19.5 | 19 | 3/4" | 15 | 6 | 15 | 173.5 | 134 | 40 | 36 | 40 |

## ◎ Main Dimension

TBCT Φ32–Φ100




| Bore/Sign | A3 | B | C | D | E | F | G | G1 | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 233 | 47 | 186 | 26 | 32 | 15 | 27.5 | 55 | 22 | 17 | 6 | M10X1.25 | M6X1 |
| 40 | 235 | 49 | 186 | 32 | 34 | 15 | 27.5 | 55 | 24 | 17 | 7 | M12X1.25 | M6X1 |
| 50 | 243 | 57 | 186 | 38 | 42 | 15 | 27.5 | 55 | 32 | 23 | 8 | M16X1.5 | M6X1 |
| 63 | 249 | 57 | 192 | 38 | 42 | 15 | 27.5 | 55 | 32 | 23 | 8 | M16X1.5 | M8X1.25 |
| 80 | 296 | 75 | 221 | 46 | 54 | 21 | 33 | 73 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |
| 100 | 308 | 75 | 233 | 46 | 54 | 21 | 33 | 73 | 40 | 26 | 10 | M20X1.5 | M10X1.5 |

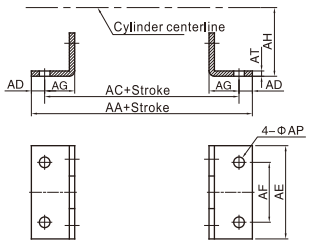
| Bore/Sign | M | N | O | P | Q | R | S | T | V | U | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 13 | 14 | 1/8" | 3.5 | 7 | 6.5 | 45 | 33 | 12 | 38 | 10 |
| 40 | 13 | 13.5 | 1/4" | 5 | 5.5 | 8.5 | 50 | 37 | 16 | 38 | 14 |
| 50 | 13 | 14.5 | 1/4" | 8.5 | 3 | 11 | 62 | 47 | 20 | 38 | 17 |
| 63 | 13 | 15 | 3/8" | 7 | 5 | 9.5 | 75 | 56 | 20 | 41 | 17 |
| 80 | 15.5 | 16.5 | 3/8" | 7 | 8 | 10 | 94 | 70 | 25 | 41 | 22 |
| 100 | 15.5 | 16.5 | 1/2" | 7.5 | 8 | 13 | 112 | 84 | 25 | 47 | 22 |

Note:1.With magnet and no magnet, the dimensions are same. 2.XBC series dimensions are same as TBC.

## Dimension of Mounting Accessories

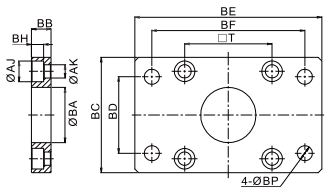
### ◎LB

| Bore/Sign | AA | AC | AD | AE | AF | AG | AH | AP | AT |
|---|---|---|---|---|---|---|---|---|---|
| FJ-TBC32LB | 153 | 132 | 10.5 | 50 | 33 | 19.5 | 28 | 9 | 3 |
| FJ-TBC40LB | 169 | 140 | 14.5 | 57 | 36 | 23.5 | 30 | 12 | 3 |
| FJ-TBC50LB | 173 | 149 | 11.5 | 68 | 47 | 28.5 | 36.5 | 12 | 3 |
| FJ-TBC63LB | 184 | 158 | 13 | 80 | 56 | 32 | 41 | 12 | 3 |
| FJ-TBC80LB | 199 | 167 | 16 | 97 | 70 | 29 | 49 | 14 | 4 |
| FJ-TBC100LB | 209 | 173 | 18 | 112.5 | 84 | 30 | 57 | 14 | 4 |



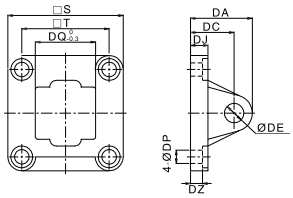

### ◎FA/FB

| Bore/Sign | AJ | AK | BA | BB | BC | BD | BE | BF | BH | BP | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FJ-TBC32FA | 11 | 7 | 28.5 | 10 | 47 | 33 | 72 | 58 | 6.5 | 7 | 33 |
| FJ-TBC40FA | 11 | 7 | 32.5 | 10 | 52 | 36 | 84 | 70 | 6.5 | 7 | 37 |
| FJ-TBC50FA | 11 | 7 | 38.5 | 10 | 65 | 47 | 104 | 86 | 6.5 | 9 | 47 |
| FJ-TBC63FA | 14 | 9 | 38.5 | 12 | 73 | 56 | 115 | 98 | 8.5 | 9 | 56 |
| FJ-TBC80FA | 17 | 11 | 47.5 | 16 | 92 | 70 | 141 | 119 | 10.5 | 11 | 70 |
| FJ-TBC100FA | 17 | 11 | 47.5 | 16 | 113 | 84 | 160 | 138 | 10.5 | 11 | 84 |



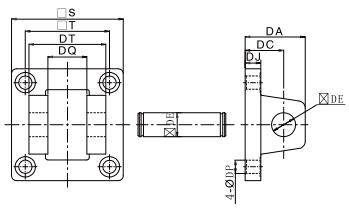

### ◎CA

| Bore/Sign | DA | DC | DE | DJ | DP | DQ | DZ | S | T |
|---|---|---|---|---|---|---|---|---|---|
| FJ-TBC32CA | 48 | 34 | 12 | 10 | 7 | 16 | 5.5 | 44 | 33 |
| FJ-TBC40CA | 48.5 | 34 | 14 | 10.5 | 7 | 20 | 5.5 | 49.5 | 37 |
| FJ-TBC50CA | 48.5 | 33 | 14 | 10.5 | 7 | 20 | 6.5 | 62 | 47 |
| FJ-TBC63CA | 50 | 34 | 14 | 10.5 | 9 | 20 | 6.5 | 72 | 56 |
| FJ-TBC80CA | 66.5 | 48 | 20 | 13 | 11 | 32 | 10 | 92 | 70 |
| FJ-TBC100CA | 65.5 | 48.5 | 20 | 13 | 11 | 32 | 10 | 110 | 84 |



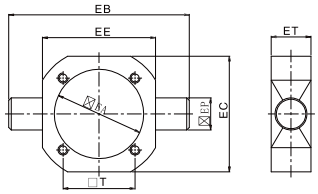

### ◎CB

| Bore/Sign | DA | DC | DE | DJ | DP | DQ | DT | S | T |
|---|---|---|---|---|---|---|---|---|---|
| FJ-TBC32CB | 32.5 | 19.5 | 12 | 10 | 7 | 16.5 | 32.5 | 47 | 33 |
| FJ-TBC40CB | 32.5 | 19.5 | 14 | 10.5 | 7 | 20.5 | 44 | 50 | 37 |
| FJ-TBC50CB | 34 | 19 | 14 | 10.5 | 7 | 20.5 | 52 | 62 | 47 |
| FJ-TBC63CB | 34 | 22 | 14 | 10 | 9 | 20.5 | 52 | 72 | 56 |
| FJ-TBC80CB | 50 | 32 | 20 | 13 | 11 | 32.5 | 64 | 93 | 70 |
| FJ-TBC100CB | 51 | 32 | 20 | 13.5 | 11 | 32.5 | 64 | 110 | 84 |




### ◎TC

| Bore/Sign | EA | EB | EC | EE | EP | ET | T |
|---|---|---|---|---|---|---|---|
| FJ-TBC32TC | 38 | 89 | 54 | 55 | 16 | 31 | 33 |
| FJ-TBC40TC | 46 | 116 | 65 | 63 | 25 | 30.5 | 37 |
| FJ-TBC50TC | 56 | 127 | 76 | 75 | 25 | 29 | 47 |
| FJ-TBC63TC | 69.5 | 140.5 | 90 | 88 | 25 | 31 | 56 |
| FJ-TBC80TC | 87.5 | 165 | 107 | 114 | 25 | 36 | 70 |
| FJ-TBC100TC | 107.5 | 181 | 131 | 132 | 25 | 41 | 84 |




### ◎TCM

| Bore/Sign | HA | HB | HD | HP | HT | HQ | HJ |
|---|---|---|---|---|---|---|---|
| FJ-TBC32TCM | 110.5 | 80 | 16 | 12 | 13 | 21.5 | 51 |
| FJ-TBC40/50/63TCM | 111.5 | 80 | 25.5 | 12 | 10.5 | 21 | 50.5 |
| FJ-TBC80/100TCM | 110 | 85 | 25.5 | 14 | 15 | 20.5 | 71 |